

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Carrier Current Systems, including)	ET Docket No. 03-104
Broadband over Power Line Systems)	
)	
Amendment of Part 15 regarding new)	
requirements and measurement)	ET Docket No. 04-37
guidelines for Access Broadband over)	
Power Line Systems)	

**OPPOSITION OF INTELLON CORPORATION TO THE
PETITION FOR RECONSIDERATION OF AERONAUTICAL RADIO, INC.
AND THE AMERICAN RADIO RELAY LEAGUE**

Intellon Corporation (“Intellon”), pursuant to Section 1.429(f) of the Commission’s Rules¹, hereby submits its Opposition to the Petition for Reconsideration filed by Aeronautical Radio, Inc. (“ARINC”)² seeking changes to the Commission’s decisions in its *Report and Order* in the above-captioned proceedings.³

ARINC requests the Commission extend the ban on use of specific Aeronautical Mobile and Aeronautical Navigational frequencies to low-

¹ 47 C.F.R. § 1.429(f).

² See Petition for Reconsideration of Aeronautical Radio, Inc., ET Docket Nos. 03-104 and 04-37 (filed Feb. 7, 2005) (“*ARINC Petition*”); *Public Notice*, Report No. 2694 (Correction), 70 FR 11244 (Mar. 8, 2005).

³ *In the Matter of Carrier Current Systems, including Broadband over Power Line Systems, Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems*, ET Docket Nos. 03-104 and 04-37, *Report and Order*, 19 FCC Rcd 21265 (2004) (“*Report and Order*”).

voltage and in-house BPL systems, a position specifically rejected by the Commission in the Report and Order.

ARINC also asks the Commission to change its decision to leave in place its rule prescribing a 40dB/decade extrapolation factor for use in radiated power measurements.

For the most part, ARINC repeats arguments it made in the comment phase of this proceeding and does not provide any new, conclusive or valid information to justify reconsideration. ARINC fails to provide valid evidence that would justify the Commission changing its decision to not amend the existing 40dB/decade extrapolation factor in Section 15.31(f)(2) of its Rules.⁴ If accepted, ARINC's proposals would hinder unnecessarily the deployment and use of Access and In-Home equipment across the nation. Experience with HomePlug devices demonstrates that the current rules minimize any potential interference to licensed radio operations from HomePlug and HomePlug-type devices.

BACKGROUND

Intellon is a fabless semiconductor manufacturer that designs and sells integrated circuits that allow networking and other communications over powerlines. Intellon invented the technology that forms the basis for the HomePlug 1.0 powerline networking specification as well as the technology

⁴ 47 C.F.R. § 15.31(f)(2).

that forms the basis of the CEBus powerline communications standard, EIA 600. Intellon is also a major contributor to the baseline technology for the proposed HomePlug AV and HomePlug BPL specifications. Intellon is the global market leader in sales of integrated circuits for high speed powerline communications.

Intellon is founding member of the HomePlug Powerline Alliance. HomePlug promotes cost effective and interoperable standards for devices that communicate through a home's electric power wires, transforming each home power outlet into a network connection as well as an electrical connection. HomePlug is the leading representative for In-House BPL products and technology, both domestically and internationally. Its member companies from the semiconductor, electronics manufacturing, retail distribution and service provision industries are committed to create and promote networks based on existing In-House power line infrastructure without causing interference to licensed radio operations.

The HomePlug 1.0 specification, introduced in 2000, is used in products to connect computers to printers and other peripheral devices. A network using HomePlug 1.0 products can transmit data at up to 14 Mbps between outlets with no effect on the electric service in the home. All of the devices individually interoperate and provide networking benefits to users. Over two million devices using Intellon's HomePlug 1.0 integrated circuits are successfully in use today in the United States, Europe, Asia and other markets. The proposed HomePlug AV

specification is designed to distribute multistream entertainment and data throughout the home, including audio and high definition video. Products are expected to enter the market later this year.

ARINC OFFERS NO JUSTIFICATION FOR EXCLUDING FREQUENCIES ON LOW VOLTAGE OVERHEAD ACCESS BPL AND IN-HOUSE BPL SYSTEMS

In its Petition, ARINC seeks reconsideration of the Commission's decisions in the *Report and Order* not to prohibit In-House BPL systems from utilizing the Aeronautical Mobile (R) frequencies and the Aeronautical Navigational frequencies 74.8–75.2 MHz.⁵ In support of its request to exclude these frequencies from operations by In-House BPL systems, ARINC reiterates information that it already had submitted in this proceeding and which the Commission considered in its *Report and Order*.⁶

Although ARINC states that “it is now apparent that in-house BPL could prove to be an especially vexing problem...,” ARINC then notes that the current carrier devices that “...appear to have been responsible for the interference documented in ARINC's Reply Comments in these proceeding” have “subsequently been largely mitigated.”⁷ Furthermore, ARINC's

⁵ The HomePlug and HomePlug AV standards use frequencies in the 4 - 28 MHz range.

⁶ See *ARINC Petition* at 3-5; *Report and Order* at ¶¶ 54-60, n.114; Reply Comments of Aeronautical Radio, Inc., ET Docket Nos. 03-104 and 04-37 (filed July 22, 2004) (“*ARINC NPRM Reply Comments*”) at 8 and Attach. C.

⁷ See *ARINC Petition* at 4 and n.7.

evidence of alleged interference caused by In-Home BPL equipment involved a single omnidirectional antenna at only one of ARINC's 13 antenna sites. Additionally, the Commission's Enforcement Bureau reported that ARINC's claims in this matter were in fact traced to a source other than carrier-current systems, and in fact the interference may have been caused by ARINC's own equipment.⁸ Resolution of that specific problem – which did not involve HomePlug equipment – demonstrates that the current rules adequately protect licensed operations.

HomePlug and its members, including Intellon, take very seriously their obligations to develop In-Home BPL equipment that does not cause harmful interference with licensed radio operations—especially radio frequencies involving safety of life. The decisions that the Commission adopted in the *Report and Order* will provide effective protection to all licensed radio operations. The Commission should deny ARINC's requests because ARINC provides no evidence that interference is or will be caused by In-House BPL systems and detrimentally affect ARINC's operations.

⁸ Memorandum from Joseph P. Casey, FCC Enforcement Bureau to FCC OET Deputy Chief Bruce Franca, 27 January 2004. Entered into 04-37 Proceeding on 23 March 2004.

THERE IS NO EVIDENCE JUSTIFYING CHANGES TO THE EXTRAPOLATION FACTOR OR TO IMPOSE NEW NOTCHING REQUIREMENTS

ARINC and ARRL also seek reconsideration of the Commission's decision to not amend its current rules that provide for using a 40dB/decade extrapolation factor in power measurements. However, both parties fail to provide valid evidence that would justify the Commission changing its decision.

Both ARINC and ARRL rely upon modeling efforts without attempt to validate the model against actual measurements to show the model is producing correct results. Although ARINC attempts to provide some engineering analysis in its Petition to support its claim that a different extrapolation factor should be required, the analysis was prepared by an in-house ARINC engineer and draws conclusions regarding interference caused by low voltage lines carrying BPL signals using a theoretical 2000 foot medium voltage transmission line as a model.⁹ There are few, if any low-voltage segments in the United States that fit ARINC's model, and most importantly, it is technically inaccurate to even attempt to extrapolate the impact of low-voltage lines from such results. ARINC's arguments do not

⁹ See *ARINC Petition* at 6-8 and App. A ("Broadband Over Power Lines (BPL) Interference Analysis," prepared by Joe Fox of ARINC Engineering Services, L.L.C.).

justify the Commission revisiting the issue.¹⁰ ARINC clearly has failed to justify its requested change, and the Commission's Rules should continue unchanged. The real world experience of Intellon and other HomePlug members confirms that using the 40dB factor for HomePlug devices protects against harmful interference.

The Commission wisely decided not to change the existing Part 15 distance extrapolation factors. These factors successfully protect against the potential for harmful interference, as evidenced by the successful operation and coexistence of more than two million HomePlug devices without interference complaints. No information in the ARINC Petition justifies a change now. Intellon therefore urges the Commission to reaffirm its early decisions and deny ARINC's requested changes.

CONCLUSION

Intellon requests the Commission to deny ARINC's Petition for Reconsideration, as discussed above. ARINC fails to provide any new information or data that justifies changing the decisions that the Commission adopted in the *Report and Order*.

Respectfully Submitted,

/s/ Charles E. Harris

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Chairman and Chief Executive Officer

¹⁰ See *Report and Order* at ¶ 109.

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Service List